

SEQUENCE LISTING

<110> Wakamiya, Nobutaka

<120> RECOMBINANT HUMAN MANNAN-BINDING PROTEINS AND PROCESS
FOR PRODUCING THE SAME

<130> 19036/36614

<140>

<141>

<150> PCT/JP98/03311

<151> 1998-07-23

<150> JP 10-11864

<151> 1998-01-23

<160> 28

<170> PatentIn Ver. 2.0

<210> 1

<211> 3605

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (66)..(809)

<220>

<221> mat_peptide

<222> (126)..(809)

<400> 1

ggtaaatatg tggtcattaa ctgagattaa ccttcctga gttttctcac accaagggtga 60

ggacc atg tcc ctg ttt cca tca ctc cct ctc ctt ctc ctg agt atg gtg 110

Met Ser Leu Phe Pro Ser Leu Pro Leu Leu Leu Leu Ser Met Val

-20

-15

-10

gca gcg tct tac tca gaa act gtg acc tgt gag gat gcc caa aag acc 158

Ala Ala Ser Tyr Ser Glu Thr Val Thr Cys Glu Asp Ala Gln Lys Thr

-5

-1 1

5

10

tgc cct gca gtg att gcc tgt agc tct cca ggc atc aac ggc ttc cca 206

Cys Pro Ala Val Ile Ala Cys Ser Ser Pro Gly Ile Asn Gly Phe Pro

15

20

25

ggc aaa gat ggg cgt gat ggc acc aag gga gaa aag ggg gaa cca ggc 254

Gly Lys Asp Gly Arg Asp Gly Thr Lys Gly Glu Lys Gly Glu Pro Gly

30

35

40

caa ggg ctc aga ggc tta cag ggc ccc cct gga aag ttg ggg cct cca 302
Gln Gly Leu Arg Gly Leu Gln Gly Pro Pro Gly Lys Leu Gly Pro Pro
45 50 55

gga aat cca ggg cct tct ggg tca cca gga cca aag ggc caa aaa gga 350
Gly Asn Pro Gly Pro Ser Gly Ser Pro Gly Pro Lys Gly Gln Lys Gly
60 65 70 75

gac cct gga aaa agt ccg gat ggt gat agt agc ctg gct gcc tca gaa 398
Asp Pro Gly Lys Ser Pro Asp Gly Asp Ser Ser Leu Ala Ala Ser Glu
80 85 90

aga aaa gct ctg caa aca gaa atg gca cgt atc aaa aag tgg ctg acc 446
Arg Lys Ala Leu Gln Thr Glu Met Ala Arg Ile Lys Lys Trp Leu Thr
95 100 105

ttc tct ctg ggc aaa caa gtt ggg aac aag ttc ttc ctg acc aat ggt 494
Phe Ser Leu Gly Lys Gln Val Gly Asn Lys Phe Phe Leu Thr Asn Gly
110 115 120

gaa ata atg acc ttt gaa aaa gtg aag gcc ttg tgt gtc aag ttc cag 542
Glu Ile Met Thr Phe Glu Lys Val Lys Ala Leu Cys Val Lys Phe Gln
125 130 135

gcc tct gtg gcc acc ccc agg aat gct gca gag aat gga gcc att cag 590
Ala Ser Val Ala Thr Pro Arg Asn Ala Ala Glu Asn Gly Ala Ile Gln
140 145 150 155

aat ctc atc aag gag gaa gcc ttc ctg ggc atc act gat gag aag aca 638
Asn Leu Ile Lys Glu Glu Ala Phe Leu Gly Ile Thr Asp Glu Lys Thr
160 165 170

gaa ggg cag ttt gtg gat ctg aca gga aat aga ctg acc tac aca aac 686
Glu Gly Gln Phe Val Asp Leu Thr Gly Asn Arg Leu Thr Tyr Thr Asn
175 180 185

tgg aac gag ggt gaa ccc aac aat gct ggt tct gat gaa gat tgt gta 734
Trp Asn Glu Gly Glu Pro Asn Asn Ala Gly Ser Asp Glu Asp Cys Val
190 195 200

ttg cta ctg aaa aat ggc cag tgg aat gac gtc ccc tgc tcc acc tcc 782
Leu Leu Leu Lys Asn Gly Gln Trp Asn Asp Val Pro Cys Ser Thr Ser
205 210 215

cat ctg gcc gtc tgt gag ttc cct atc tgaaggggtca tatcactcag 829
His Leu Ala Val Cys Glu Phe Pro Ile
220 225

gccctccttg tcttttttact gcaaccacaca ggcccacagt atgcttgaaa agataaatta 889

tatcaatttc ctcatatcca gtattgttcc ttttgtgggc aatcactaaa aatgatcact 949

aacagcacca acaaagcaat aatagtagta gtagtagtta gcagcagcag tagtagtcat 1009

gctaattata taatatatttt aatatatact atgaggccct atctttttgca tcctacatta 1069

1005453 01200

attatctagt ttaattaatc tgtaatgctt tcgatagtgt taacttgctg cagtatgaaa 1129
ataagacgga tttatTTTTc catttacaac aaacacctgt gctctgttga gccttccttt 1189
ctgtttgggt agagggtcc cctaatagaca tcaccacagt ttaataccac agctttttac 1249
caagtttcag gtattaagaa aatctatTTT gtaactttct ctatgaactc tgttttcttt 1309
ctaatagagat attaaacat gtaaagaaca taaataacaa atctcaagca aacagcttca 1369
caaattctca cacacataca tacctatata ctcaactttct agattaagat atgggacatt 1429
tttgactccc tagaagcccc gttataactc ctcttagtac taactcctag gaaaatacta 1489
ttctgacctc catgactgca cagtaatttc gtctgtttat aaacattgta tagttggaat 1549
catattgtgt gtaatgttgt atgtcttgct tactcagaat taagtctgtg agattcattc 1609
atgtcatgtg tacaaaagtt tcctcctttt cattgccatg taggggtccc ttatattaat 1669
attcctcagt tcatccattc tattgttaat aggcaactaa gtgggttcca atttttggcc 1729
atgaggaaga gaaccacga acattcctgg acttgtcttt tgggtggacat ggtgcactaa 1789
tttcaactacc tatccaggag tggaactggg agaggatgag gaaagcatgt attcagcttt 1849
agtagatatt accagttttc ctaagtgatt gtatgaattt atgctcctac cggcaatgtg 1909
tggcagtcct agatgctcta tgtgcttgta aaaagtcaat gttttcagtt ctcttgattt 1969
tcattattcc tgtggatgta aagtgatatt tccccatggt tttaatctgt atttcccaa 2029
catgtaataa ggttgaacac ttttttatat gcttattggg cacttgggta tcttcttctg 2089
tgaagtaccc gttcacattt ttgtattttg tttaaattag ttagccaata tttttcttac 2149
tgatttttaa gttattttta cattctgaat atgtcctttt taatgtgtat tacaaatatt 2209
ttgctagttt ttgacttgct cctaattgtg aattttgatg aacaaaattt cctaattttg 2269
agaaagtctt atttattcat attttctttc aaaattagtg ctttttgtgt catgtttaag 2329
aaatTTTTgc ccatcccaa atcataagat atttttcatg attttgaaac catgaagaga 2389
tttttcatga ttttgaaatc atgaagatat ttttccattt ttttctaata gttttattaa 2449
taaacattct atctattcct ggtagaatag atatccactt gagacagcac tatgtaggaa 2509
agaccatttt tctccactg aactaggggt gtgcattttt gtaagttagg taactgtatg 2569
tgtgtgtgtc tgtttctggg ctgtctattc tagtctattt gttgatgctt gtgtcaaaca 2629
gtacactatc ttaattattg tacatttata gttgtaactg tagtccagct ttgttcttct 2689
tcaagtcaag atttccatat aaatattaga aacagtttct caatttctac aaaatcctga 2749

202210 96545007

tgagggtttct actgggacca cattgagtct atcaatcaac ttatgcagaa ctggcaactt 2809
actactgaat ctctaataca tgttcatcat gtatcgcttc atttaactag gatttctcta 2869
acttaattgc tatgttttga gatttttagt ttaaaaacct tgtatatctt gttttgggtgg 2929
tttttagtgat ttttaataata tatttttaa attttttctt ttctattgtt gtacacagaa 2989
atacagttaa gttttgtgtg tagtcttacg atgttttagta acctcaataa gtttatttct 3049
taaacttagt aatttgtaga ttcctctgga ttttgtatat gcatagtcac gtaagctgaa 3109
aatatggcaa tacttgcttc ttcccaattg ctttaccttt tttcttacct tattgcactg 3169
gttagcaacc ccaatacaga gaccaccaga gcaggatatag actcctgaaa gacaatataa 3229
tgaagtgtct cagtcaggcc tatctaaact ggattcacag ctctgtcact taattgctac 3289
atgatctaga gccagttact ttgtgtttca gccatgtatt tgcagctgag agaaaataat 3349
cattcttatt tcatgaaaat tgtggggatg atgaaataag ttaacacctt taaagtgtgt 3409
agtaaagtat caggatacta tatttttagt cttaatacac acagttatgc cgctagatac 3469
atgcttttta atgagataat gtgatattat acataacaca tatcgatttt taaaaattaa 3529
atcaaccttg ctttgatgga ataaactcca tttagtcaca aaaaaaaaaa aaaaaaaaaa 3589
aaaaaaaaaa aaaaaa 3605

<210> 2
<211> 747
<212> DNA
<213> Homo sapiens

<400> 2
atgtccctgt ttccatcact ccctctcctt ctcttgagta tgggtggcagc gtcttactca 60
gaaactgtga cctgtgagga tgcccaaaag acctgccctg cagtgattgc ctgtagctct 120
ccaggcatca acggcttccc aggcaaagat gggcgtgatg gcaccaaggg agaaaagggg 180
gaaccaggcc aagggtctag aggtttacag ggccccctg gaaagtggg gcctccagga 240
aatccagggc cttctgggtc accaggacca aagggccaaa aaggagaccc tggaaaaagt 300
ccggatggtg atagtagcct ggctgcctca gaaagaaaag ctctgcaaac agaaatggca 360
cgtatcaaaa agtggctgac cttctctctg ggcaaacaag ttgggaacaa gttcttcctg 420
accaatggtg aaataatgac ctttgaaaaa gtgaaggcct tgtgtgtcaa gttccaggcc 480
tctgtggcca ccccaggaa tgctgcagag aatggagcca ttcagaatct catcaaggag 540

gaagccttcc tgggcatcac tgatgagaag acagaagggc agtttgtgga tctgacagga 600
aatagactga cctacacaaa ctggaacgag ggtgaaccca acaatgctgg ttctgatgaa 660
gattgtgtat tgctactgaa aaatggccag tggaatgacg tcccctgctc cacctcccat 720
ctggccgtct gtgagttccc tatctga 747

<210> 3
<211> 41
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sense DNA

<400> 3
tatgccgcgg aatcgatgat taccgtacgg aattcgggcc c 41

<210> 4
<211> 39
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense DNA

<400> 4
acggcgcctt agctactaat ggcatgcctt aagcccggg 39

<210> 5
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sense DNA

<400> 5
agcttccgcg gctgcaggga tccatcgat 29

<210> 6
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense DNA

<400> 6
aggcgccgac gtccttaggt agctattaa 29

added to sequence

<210> 7
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' sense
primer (PS1)

<400> 7
ccccgcggga attctgtgga atgtgtgtca gttaggg 37

<210> 8
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3' antisense
primer (PS2)

<400> 8
ccctgcagct ttttgcaaaa gcctaggcct cc 32

<210> 9
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' sense
primer (PS3)

<400> 9
ccccgcggtg tggaatgtgt gtcagttagg g 31

<210> 10
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sense DNA

<400> 10
aattgggccc atcgat 16

<210> 11
<211> 16
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: antisense DNA

<400> 11

cccgggtagc tatta

16

<210> 12

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 5' sense
primer (PD1)

<400> 12

ggctgcagtc cctcatgctt cgaccattga actgcacgt c

41

<210> 13

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 3' antisense
primer (PD2)

<400> 13

atagatctaa agccagcaaa agtcccatgg tc

32

<210> 14

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 5' sense
primer (PN1)

<400> 14

ggctgcagct tcacgctgcc gcaagcac

28

<210> 15

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 3' antisense

2025-09-24 10:54:00

primer (PN2)

<400> 15
ggggatccgg ggtgggcgaa gaactccag 29

<210> 16
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: antisense
primer

<400> 16
atcttggtca agcatgcgaa acgatacct 28

<210> 17
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sense DNA

<400> 17
agcttgatat catcgatgcg gccgcggtac cagatctcgt acgtctagag 50

<210> 18
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: antisense
primer

<400> 18
actatagtag ctacgccggc gccatggtct agagcatgca gatctcttaa 50

<210> 19
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' sense
primer (PC1)

<400> 19
ccgattactt accgccatgt tgacattgat tattgactag ttattaa 47

<210> 20
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3' antisense
primer (PC2)

<400> 20
ccatcgatcg gttcactaaa cgagctctgc ttatatagac ctccc 45

<210> 21
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' sense
primer (PB11)

<400> 21
cctctagact gtgccttcta gttgccagcc at 32

<210> 22
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3' antisense
primer (PB12)

<400> 22
ccagatctgt acccatagag cccaccgcat cc 32

<210> 23
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' sense
primer (PB21)

<400> 23
ttggatccct gtgccttcta gttgccagcc at 32

<210> 24
<211> 32

20040604 09:54:00

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 3' antisense
primer (PB22)

<400> 24

ttcgtacgga tcccatagag cccaccgcat cc

32

<210> 25

<211> 7635

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: plasmid pNOW1

<400> 25

gcgcgtttcg gtgatgacgg tgaaaacctc tgacacatgc agctcccga gacggtcaca 60
gcttgtctgt aagcggatgc cgggagcaga caagcccgtc agggcgcgtc agcgggtgtt 120
ggcgggtgtc ggggctggct taactatgcg gcatcagagc agattgtact gagagtgcac 180
catatgccgc ggtgtggaat gtgtgtcagt taggggtgtg aaagtcccca ggctcccag 240
caggcagaag tatgcaaagc atgcatctca attagtcagc aaccatagtc cgcgccctaa 300
ctccgcccac cccgccccta actccgccc gttccgccc ttctccgccc catgggtgac 360
taattttttt tatttatgca gaggccgagg cgcctctgag ctattccaga agtagtgagg 420
aggctttttt ggaggcctag gcttttgcaa aaaagctgca gtgggcttac atggcgatag 480
ctagactggg cggttttatg gacagcaagc gaaccggaat tgccagctgg ggcgcctct 540
ggtaagggtg ggaagccctg caaagtaaac tggatggctt tcttgccgcc aaggatctga 600
tggcgcaggg gatcaagatc tgatcaagag acaggatgag gatcgtttcg catgattgaa 660
caagatggat tgcacgcagg ttctccggcc gcttgggtgg agaggctatt cggctatgac 720
tgggcacaac agacaatcgg ctgctctgat gccgccgtgt tccggctgtc agcgcagggg 780
cgcccggttc tttttgtcaa gaccgacctg tccgggtgcc tgaatgaact gcaggacgag 840
gcagcgcggc tatcgtggct ggccacgacg ggcgttcctt gcgcagctgt gctcgacgtt 900
gtcactgaag cgggaaggga ctggctgcta ttgggcgaag tgccggggca ggatctcctg 960
tcactcacc ttgctcctgc cgagaaagta tccatcatgg ctgatgcaat gcggcggtcg 1020
catacgcttg atccggctac ctgcccattc gaccaccaag cgaaacatcg catcgagcga 1080

gcacgtactc ggatggaagc eggtcttgtc gatcaggatg atctggacga agagcatcag 1140
gggctcgcgc cagccgaact gtccgccagg ctcaaggcgc gcatgcccga cggcgaggat 1200
ctcgtcgtga cccatggcga tgccctgctt cccaatatca tgggtggaaaa tggccgcttt 1260
tctggattca tcgactgtgg ccggctgggt gtggcggacc gctatcagga catagcgttg 1320
gctaccctg atattgctga agagcttggc ggcgaatggg ctgaccgctt cctcgtgctt 1380
tacggtatcg ccgctcccga ttccgcagcgc atcgcttct atcgcttct tgacgagttc 1440
ttctgagcgg gactctgggg ttcgaaatga ccgaccaagc gacgcccac ctgccatcac 1500
gagatttoga ttccaccgcc gccttctatg aaagggtggg cttcggaatc gttttccggg 1560
acgcgggctg gatgatectc cagcgcggga tcacatgctg gattcttcgc ccacccctc 1620
gatccctcg cgagttggtt cagctgctgc ctgaggctgg acgacctgc ggagttctac 1680
cggcagtga aatccgtcgg catccaggaa accagcagcg gctatccgc catccatgcc 1740
cccgaactgc aggagtgggg aggcacgatg gccgcttgg tcgaccgga cgggacgctc 1800
ctgcgcctga tacagaacga attgcttga ggcattctcat gagtgtgtct tccgttttc 1860
cgctgaggt cactgcgtgg atgggatccg tgacataatt ggacaaacta cctacagaga 1920
tttaaagctc taaggtaa ataaaatttt taagtgtata atgtgttaa ctactgattc 1980
taattgtttg tgtattttag attccaacct atggaactga tgaatgggag cagtgggtga 2040
atgcctttaa tgaggaaaac ctgttttgct cagaagaaat gccatctagt gatgatgagg 2100
ctactgctga ctctcaacat tctactctc caaaaaagaa gagaaaggta gaagacccca 2160
aggactttcc ttcagaattg ctaagttttt tgagtcatgc tgtgtttagt aatagaactc 2220
ttgcttgctt tgctatttac accacaaagg aaaaagctgc actgctatac cagaaattat 2280
gaaatattct gtaaccttta taagtaggca taacagttat aatcataaca tactgttttt 2340
tcttactcca cacaggcata gagtgtctgc tattaataac tatgctcaa aattgtgtac 2400
ctttagcttt ttaatttgta aaggggttaa taaggaatat ttgatgtata gtgccttgac 2460
tagagatcat aatcagccat accacatttg tagaggtttt acttgcttta aaaaacctcc 2520
cacacctccc cctgaacctg aaacataaaa tgaatgcaat tgttggtgtt aactgtttta 2580
ttgcagctta taatgggtac aaataaagca atagcatcac aaatttcaca aataaagcat 2640
tttttctact gcattctagt tgtggtttgt ccaaactcat caatgtatct tatcatgtct 2700
gggcccgata tccgatgtac gggccagata tacgcgttga cattgattat tgactagtta 2760

ttaatagtaa tcaattacgg ggtcattagt tcatagccca tatatggagt tccgcgttac 2820
ataacttacg gtaaattggcc cgcttggtg accgcccaac gacccccgcc cattgacgtc 2880
aataatgacg tatgttccca tagtaacgcc aatagggact ttccattgac gtcaatgggt 2940
ggactattta cggtaaactg cccacttggc agtacatcaa gtgtatcata tgccaagtac 3000
gccccctatt gacgtcaatg acggtaaattg gcccgcttg cattatgccc agtacatgac 3060
cttatgggaa ctttctact tggcagtaca tctacgtatt agtcatcgct attaccatgg 3120
tgatgcgggt ttggcagtac atcaatgggc gtggatagcg gtttgactca cggggatttc 3180
caagtctcca cccattgac gtcaatggga gtttgttttg gcacaaaaat caacgggact 3240
ttccaaaatg tcgtaacaac tccgccccat tgacgcaaatt gggcggtagg cgtgtacggg 3300
gggaggtcta tataagcaga gcatcgatgc ggccgcggta cctctagact gtgccttcta 3360
gttgccagcc atctgttgtt tggccccccc tccccctgac cttccttgac cctggaaggt 3420
gccactccca ctgtcctttc ctaataaaat gaggaaattg catcgcatgt tctgagtagg 3480
tgtcattcta ttctgggggg tgggggtggg caggacagca agggggagga ttgggaagac 3540
aatagcaggc atgctgggga tgcgggtggc tctatggtct aggctgtgcc ttctagttgc 3600
cagccatctg ttgtttggcc cccctcccc cgtgccttcc ttgaccctgg aaggtgccac 3660
tcccactgtc ctttctaat aaaatgagga aattgcatcg cattgtctga gtaggtgtca 3720
ttctattctg ggggggtggg tggggcagga cagcaagggg gaggattggg aagacaatag 3780
caggcatgct ggggatgcgg tgggctctat ggcgtacggg atgctagaga attctgtgga 3840
atgtgtgtca gttaggggtg ggaaagtccc caggctcccc agcaggcaga agtatgcaaa 3900
gcatgcatct caattagtca gcaaccatag tcccgccct aactccgcc atcccccccc 3960
taactccgcc cagttccgcc cattctccgc cccatggctg actaattttt tttatttatg 4020
cagaggccga ggcgcctctg agctattcca gaagtagtga ggaggctttt ttggaggcct 4080
aggcttttgc aaaaaagctg cagtccctca tggttcgacc attgaactgc atcgtcgccg 4140
tgtcccaaaa tatggggatt ggcaagaacg gagacctacc ctggcctccg ctcaggaacg 4200
agttcaagta cttccaaaga atgaccacaa cctcttcagt ggaaggtaaa cagaatctgg 4260
tgattatggg taggaaaacc tggttctcca ttctgagaa gaatcgacct ttaaaggaca 4320
gaattaatat agttctcagt agagaactca aagaaccacc acgaggagct cttttcttg 4380
ccaaaagttt ggatgatgcc ttaagactta ttgaacaacc ggaattgtca agtaaagtag 4440

20210324007

acatggtttg gatagtcgga ggcagttctg tttaccagga agccatgaat caaccaggcc 4500
acctcagact ctttgtgaca aggatcatgc aggaatttga aagtgcacgc tttttcccag 4560
aaattgattt ggggaaatat aaacttctcc cagaataccc aggcgtcctc tctgaggtcc 4620
aggaggaaaa aggcatacaag tataagtttg aagtctacga gaagaaagac taacaggaag 4680
atgctttcaa gttctctgct cccctcctaa agctatgcat ttttataaga ccatgggact 4740
tttgctggct ttaagatccg tgacataatt ggacaaacta cctacagaga tttaaagctc 4800
taaggtaaat ataaaatttt taagtgtata atgtgttaaa ctactgattc taattgtttg 4860
tgtattttag attccaacct atggaactga tgaatgggag cagtgggtga atgccttta 4920
tgaggaaaac ctgttttgct cagaagaaat gccatctagt gatgatgagg ctactgctga 4980
ctctcaacat tctactctc caaaaaagaa gagaaaggta gaagaccca aggactttcc 5040
ttcagaattg ctaagttttt tgagtcatgc tgtgttttagt aatagaactc ttgcttgctt 5100
tgctatttac accacaaagg aaaaagctgc actgctatac cagaaattat gaaatattct 5160
gtaaccttta taagtaggca taacagttat aatcataaca tactgttttt tcttactcca 5220
cacaggcata gagtgtctgc tattaataac tatgctcaaa aattgtgtac ctttagcttt 5280
ttaatttgta aaggggttaa taaggaatat ttgatgtata gtgccttgac tagagatcat 5340
aatcagccat accacatttg tagaggtttt acttgcttta aaaaacctcc cacacctccc 5400
cctgaacctg aaacataaaa tgaatgcaat tgttggtgtt aacttgttta ttgcagctta 5460
taatggttac aaataaagca atagcatcac aaatttcaca aataaagcat ttttttccact 5520
gcattctagt tgtggtttgt ccaaactcat caatgtatct tatcatgtct gggccctgc 5580
attaatgaat cggccaacgc gcggggagag gcggtttgcg tattggggcg tcttcgctt 5640
cctcgctcac tgactcgctg cgctcggtcg ttcggtcgcg gcgagcggtg tcagctcact 5700
caaaggcggc aatacgggta tccacagaat caggggataa cgcaggaaag aacatgtgag 5760
caaaaggcca gcaaaaggcc aggaaccgta aaaaggccgc gttgctggcg tttttccata 5820
ggctccgccc ccctgacgag catcacaaaa atcgacgctc aagtcagagg tggcgaaacc 5880
cgacaggact ataaagatac caggcgtttc ccctggaag ctccctcgct cgctctcctg 5940
ttccgaccct gccgcttacc ggatacctgt ccgcctttct cccttcggga agcgtggcg 6000
tttctcaatg ctacgctgt aggtatctca gttcggtgta ggtcggtcgc tccaagctgg 6060
gctgtgtgca cgaaccccc gtccagcfcg accgctgcgc cttatccggt aactatcgct 6120

ttgagtccaa cccggttaaga cacgacttat cgccactggc agcagccact ggtaacagga 6180
ttagcagagc gaggtatgta ggcggtgcta cagagttctt gaagtgggtg cctaactacg 6240
gctacactag aaggacagta tttggtatct gcgctctgct gaagccagtt accttcgaa 6300
aaagagttgg tagctcttga tccggcaaac aaaccacgc tggtagcggg ggtttttttg 6360
tttgcaagca gcagattacg cgcagaaaaa aaggatctca agaagatcct ttgatctttt 6420
ctacgggggtc tgacgctcag tggaacgaaa actcacgtta agggattttg gtcattgagat 6480
tatcaaaaag gatcttcacc tagatccttt taaattaaaa atgaagtttt aaatcaatct 6540
aaagtatata tgagtaaact tggcttgaca gttaccaatg cttaatcagt gaggcaccta 6600
tctcagcgat ctgtctatct cgttcaccca tagttgctg actccccgc gtgtagataa 6660
ctacgatacg ggagggctta ccatctggcc ccagtgtctc aatgataccg cgagaccac 6720
gctcaccggc tccagattta tcagcaataa accagccagc cggaagggcc gagcgcagaa 6780
gtggtcctgc aactttatcc gcctccatcc agtctattaa ttgttgccgg gaagctagag 6840
taagtagttc gccagttaat agtttgccga acgttggtgc cattgctaca ggcatcgtgg 6900
tgtcacgctc gtcgtttggg atggcttcat tcagctccgg ttcccaacga tcaaggcgag 6960
ttacatgata ccccatgttg tgcaaaaaag cggttagctc ctccggctct ccgatcgttg 7020
tcagaagtaa gttggccgca gtgttatcac tcatggttat ggcagcactg cataattctc 7080
ttactgtcat gccatccgta agatgctttt ctgtgactgg tgagtactca accaagtcatt 7140
tctgagaata gtgtatgagg cgaccgagtt gctcttgccc ggcgtcaata cgggataata 7200
ccgcgccaca tagcagaact ttaaaagtgc tcatcattgg aaaacgttct tcggggcgaa 7260
aactctcaag gatcttaccg ctgttgagat ccagttcgat gtaaccact cgtgcaccca 7320
actgatcttc agcatctttt actttcacca gcgtttctgg gtgagcaaaa acaggaaggc 7380
aaaatgccgc aaaaaaggga ataagggcga cacggaaatg ttgaatactc atactcttcc 7440
tttttcaata ttattgaagc atttatcagg gttattgtct catgagcgga tacatatttg 7500
aatgtattta gaaaaataaa caaatagggg ttccgcgcac atttccccga aaagtgccac 7560
ctgacgtcta agaaaccatt attatcatga cattaaccta taaaaatagg cgtatcacga 7620
ggccctttcg tctc 7635

<210> 26

<211> 39

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 26
aaggaaaaaa gcggccgcat gtcctgttt ccatcactc 39

<210> 27
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 27
gctctagatc agataggga ctcacagac 29

<210> 28
<211> 248
<212> PRT
<213> Homo sapiens

<400> 28
Met Ser Leu Phe Pro Ser Leu Pro Leu Leu Leu Ser Met Val Ala
1 5 10 15
Ala Ser Tyr Ser Glu Thr Val Thr Cys Glu Asp Ala Gln Lys Thr Cys
20 25 30
Pro Ala Val Ile Ala Cys Ser Ser Pro Gly Ile Asn Gly Phe Pro Gly
35 40 45
Lys Asp Gly Arg Asp Gly Thr Lys Gly Glu Lys Gly Glu Pro Gly Gln
50 55 60
Gly Leu Arg Gly Leu Gln Gly Pro Pro Gly Lys Leu Gly Pro Pro Gly
65 70 75 80
Asn Pro Gly Pro Ser Gly Ser Pro Gly Pro Lys Gly Gln Lys Gly Asp
85 90 95
Pro Gly Lys Ser Pro Asp Gly Asp Ser Ser Leu Ala Ala Ser Glu Arg
100 105 110
Lys Ala Leu Gln Thr Glu Met Ala Arg Ile Lys Lys Trp Leu Thr Phe
115 120 125
Ser Leu Gly Lys Gln Val Gly Asn Lys Phe Phe Leu Thr Asn Gly Glu
130 135 140

Ile Met Thr Phe Glu Lys Val Lys Ala Leu Cys Val Lys Phe Gln Ala
145 150 155 160

Ser Val Ala Thr Pro Arg Asn Ala Ala Glu Asn Gly Ala Ile Gln Asn
165 170 175

Leu Ile Lys Glu Glu Ala Phe Leu Gly Ile Thr Asp Glu Lys Thr Glu
180 185 190

Gly Gln Phe Val Asp Leu Thr Gly Asn Arg Leu Thr Tyr Thr Asn Trp
195 200 205

Asn Glu Gly Glu Pro Asn Asn Ala Gly Ser Asp Glu Asp Cys Val Leu
210 215 220

Leu Leu Lys Asn Gly Gln Trp Asn Asp Val Pro Cys Ser Thr Ser His
225 230 235 240

Leu Ala Val Cys Glu Phe Pro Ile
245

202207250000